Introduction

The Polar cap, covered with five million square miles of ice up to 35 feet thick, is a forbidding region, often with howling blizzards and surface temperatures to 60°F below zero. The bones of many explorers litter the Arctic wastes following failed attempts to reach the North Pole. It was not until April 6, 1909, that Commander Robert E. Peary and Eskimo Matthew Henson, journeying overland with four other Eskimos, were able to reach the North Pole. On May 9, 1926 Lieutenant Commander Richard E. Byrd was first to fly over the North Pole. In 1931, explorers Sir Hubert Wilkins and Lincoln Ellsworth attempted to cross the Arctic Ocean in an ex-Navy submarine named NAUTILUS. The expedition did not succeed, but sowed the seeds for future Polar explorations by submarine.

Commencing in 1946, U.S. Navy submarines sailed north to the edges of the ice pack, but the vastness of the cap and limitations of the submarines permitted only brief forays under ice. The propulsive power to conquer a sea route to the North Pole was born with USS NAUTILUS SSN-571, world's first nuclear powered submarine. In August, 1958, she made history by transiting from the Pacific to the Atlantic Ocean via the North Pole. Nine days later, USS SKATE SSN-578, entering the Arctic Ocean from the Atlantic, repeated the feat and, the following year, became the first submarine to actually surface at the North Pole. Since then, submarines of three nations - United States, Great Britain and Soviet Union, now Russia - have more or less routinely operated in the Arctic Ocean often visiting the North Pole.

This data sheet provides a summary philatelic history of unclassified submarine operations in polar waters in three sections:

1. US Navy nuclear powered submarine operations in the Arctic,
2. Foreign navy nuclear powered operations in the Arctic
3. US Navy diesel electric submarine operations in polar waters.

The extreme secrecy of its government precludes listing any but the first Soviet nuclear submarine achievement of the North Pole.

Submarine Arctic operations, with singular exception, are classified or closely held with a Navy press release following the operation providing minimal details. Fortunately, many submarines prepared cacheted and/or postmarked covers to document their voyages but these were distributed mostly to crews or sent to senior navy and government officials. Also fortunately, scientists of the Arctic Submarine Laboratory cooperated with collectors to provide a small quantity of covers for the trips usually mailed within days or weeks of the completion of the operation. Mail from those operations which are documented is elusive to extremely scarce in all but a selected few cases. Covers occasionally come on the market place in dealer's boxes and, more recently, in eBay auctions.

Format

The data sheet lists ship name, dates of operation and associated units, North Pole attainment with dates in parenthesis, cover postmark and cachet information. A summary of the operation follows each listing including pertinent details on covers known for the operation as well as amplifying information on quantity, cancel and cachet designer if known.

Information in the summary comments has been compiled from personal files maintained by the author including Navy Department records to which he had access, press releases, newspaper reports, personal comments or discussions with Commanding Officers or others involved in the operations, questionnaires sent to the submarines following an operation and covers or photo copies provided by interested collectors. The
philatelic information in the summaries was, for the most part, obtained from these personal contacts and inquiries to the individual submarines.

Illustrations are included for ship sponsored cachets and cancels, cachets provided by collectors or for cachets not identifiable as to sponsor. As a general rule OSC are not illustrated.

Abbreviations
APLIS - Applied Physics Laboratory Ice Station
ASL or ARCSUBLAB - Arctic Submarine Laboratory
Cachets: cptr - computer; ht - hand tinted
Cancels: hc - hand cancel; mc - machine cancel
CNO - Chief of Naval Operations
HMS - Her Majesty's Ship
Icex - Ice Exercise
Lant - Atlantic
NP - North Pole
Ops - operations
OSC - official ship cachet
Pac - Pacific
PO - Post Office
Pr - printed
RSC - rubber stamp cachet
Scicex - Science Ice Exercise
Sub - Submarine (also used as a prefix)
UK - United Kingdom
USFS - United States Postal Service
USS (United States Ship) is not used preceding the ship name as not needed.
w/ with; w/o without

Cancels are classified by the USCS Locy System (revised).
Dates at the NP are as reported by the ships or recorded by the Arctic Sub Lab riders. Some ships used their local (home port) time, others used Greenwich Meridian Time (GMT) (Z); ARCSUBLAB riders invariably used GMT.

Acknowledgements
The author compiled an earlier draft of this data sheet in 1990 which was updated by Charles Simpson, USCS 4335, through 1996 before his untimely death. Al Hayashida, formerly of the Arctic Submarine Laboratory, provided a declassified update of submarine Arctic operations through 2005. John Young USCS L-8219 and Bob Stark, USCS 11455 provided information not in the author's files; Ned Harris, USCS 3608 and Dr. Hal Vogel, USCS 9659 provided additional information and kindly reviewed the preliminary draft for accuracy and completeness.
Information not included in this data sheet is gratefully accepted. Please send with a scan of any covers not listed to:
Bob Rawlins, PO Box 981, Healdsburg CA 95448.
1. U.S. Navy Nuclear Submarine Operations in the Arctic

<table>
<thead>
<tr>
<th>Ship</th>
<th>Dates &amp; Associated units</th>
<th>North Pole</th>
<th>Postmarks</th>
<th>Cachets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nautilus SSN-571</td>
<td>1957 (8/19 - 9/15) Trigger SS-564</td>
<td>No</td>
<td>none</td>
<td>none</td>
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</table>

Made rendezvous w/ USS Trigger off Jan Mayen Is; submerged Sep 1 at edge of ice pack, damaged periscopes, cleared ice pack to make repairs, reentered ice pack headed north, aborted approx 180 miles from NP (87° N) on Sep 4 due to gyro compass failure, moored alongside Fulton at Rothsay, Scotland to complete operation.

<table>
<thead>
<tr>
<th>Ship</th>
<th>Dates &amp; Associated units</th>
<th>North Pole</th>
<th>Postmarks</th>
<th>Cachets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nautilus SSN-571</td>
<td>1958 (7/22 - 8/12)</td>
<td>Yes (8/3)</td>
<td>1. Ty F “North Pole” 8/3/58</td>
<td>Two color RSC (1570 covers)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Panama Greetings w/ same</td>
<td>Same (116 cards)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Ty F “Trans Polar 8/3/58</td>
<td>OSC (30 after trip)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4. USN Br 10864 8/16/58 (London)</td>
<td>OSC (other varieties)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5. New York 8/25/58</td>
<td>OSC</td>
</tr>
</tbody>
</table>

Departed Pearl Harbor July 22 on Operation “Sunshine”, entered Arctic Ocean Aug 1 passed under but did not surface at Pole on Aug 3, surfaced in Greenland Sea after 96 hours and 1830 miles under ice, completing first West to East Arctic transit at Portland, England Aug 12. Departed Aug 18, entered New York Harbor Aug 25. (Nautilus is the only nuclear powered ship ever to visit New York.) #1 cancel designed and carved from linoleum block by crew member E.F. Holland; #1 & 2 cachet designed by crew members John Krawczyk and William Engdahl who also assembled a guide to properly align the two RS, one in black, the other in red. #3 cancel designed and carved by crew member R.T. Bearden but not used for the voyage. After return PAO struck 30 impressions on covers w/ship OSC.
Skate SSN-578  1958 (7/30 - 9/22)  Yes (8/12, 8/17)  
Halfbeak SS-352  1. New York mc 8/25/58  
Ice Station Alpha (8/14)  2. New York mc 8/24, 25/58 
  3. New York mc 8/26/58 
  4. New York duplex 8/26/58 
  5. Bergen 8/24/58 
  6. APO 85 8/26/58 (Oslo) 
  7. APO 230 9/2/58 (Paris) 
  8. New London 8/28/58 
  9. 3L RS (30 Jul - 23 Sep) 
  10. 4L RS (Bogus, done after return) 
  11. APO 731 9/24/58 (Fairbanks AK) 
  RSC Polar Ice Cap Cruise 
  RS Ice Skate 
  RSC Polar Ice Cap Cruise + 
  Circular NP “Sub Mail” 
  RSC Polar Ice Cap Cruise 
  RSC Polar Ice Cap Cruise + 
  Ice Skate cachets (2) 
  RSC Polar Ice Cap Cruise 
  RSC Polar Ice Cap Cruise 
  RSC Polar Ice Cap Cruise 
  RSC Polar Ice Cap Cruise 
  map 
  RSC Polar Cruise & Ice Skate 

Skate departed New London, reached NP Aug 12 passed under, circled but did not surface, then headed for rendezvous w/Ice Station Alpha. Exchanged visits and mail. Returned to NP Aug 17 surfacing about 40 miles away; completed cruise at Bergen, Norway, then visited Oslo and ports in France, the Netherlands and Belgium before returning to Boston arriving Sep 22. 

#2: approx 100 Ice Station Alpha covers carried in Skate, carried w/crew mail to NY; #3 Ice Sta Alpha cover posted at Bergen; #11 is Skate mail left with Ice Station Alpha (qty unknown)
Skate SSN-578

2. Fulton T-2 4/9 (Return)  OSC

Departed New London, made first surfacing at North Pole where held memorial service for Hubert Wilkins at Pole and scattered his ashes as he had requested. Returned New London w/o port visits.

Sargo SSN-583

1960 (1/18 - 3/3)  Yes (2/9)  1. Ty F 2/9/60 (6 diff devices used)  Sargo 583/ North Pole
2. Same  Sargo 583/ Arctic Exploration
C GC Staten Island AGB-5  3. Ty 2 2/3 & 27/60
Ice Island T-3  RS Circular Staten Is Arctic Ops

Ice Island T-3  & 4 line Arctic Ops Winter 59-60

Sargo departed Pearl Harbor Jan 18, made rendezvous w/Staten Island on Jan 25 and Feb 24; visited Ice Island T-3 Feb 17 and conducted tests. Voyage was advertised in advance; over 15,000 covers serviced while surfaced at NP. Ship was authorized one day post office; three sets of cancels (two cancelers per set) issued, identifiable by location of positions of various letters. Sargo had two similar but different cachets, #1 is common while #2 has only one example reported. Sargo returned to Pearl Harbor after operation.
Seadragon SSN-584 1960 (8/1 - 9/14) Yes (8/25) 1. Portsmouth NH hc 8/1/60 (depart) Circular RSC First Polar Transit
Resolute, Cornwallis Is.
2. Nome AK 9/5/60 duplex Same
3. Nome AK mc 9/5/60 Same
4. Nome 9/5/60 duplex Square map type & circular RSC
5. USN Br 17012 (PH TH) 9/14/60 Circular RSC

#2 small number of covers exist w/ typed msg: Dive beneath iceberg; at North Magnetic Pole; baseball game at NP (no postmark)

Seadragon departed Portsmouth, NH to transfer to Pearl Harbor via Northwest Passage. Visited Canadian Weather Station in Barrow Strait Aug 16; mail was taken off to be held for one week. Attempted to visit Ice Island T-3, but could get only a few miles from station. Moored alongside icebreaker Northwind WAGB-282 at Nome, AK where transit covers were serviced.
Voyage advertised over 15,000 covers serviced; small no. covers w/dual Portsmouth-Nome postmarks; voyage ended at Pearl Harbor Sep 14.

Skate SSN-578 1962 (3/3) No none
Entemedor SS-340
Tusk SS-426
Burton Island WAGB-283
SubIce 1-62 in Cabot Strait north of Nova Scotia to test sonar and torpedo performance in Arctic environment
<table>
<thead>
<tr>
<th>Submarine</th>
<th>Year (Dates)</th>
<th>COVERs</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seadragon SSN-584</strong></td>
<td>1962 (7/12 - 9/14)</td>
<td>Yes (8/2)</td>
<td></td>
</tr>
<tr>
<td>Ice Island T-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burton Island WAGB-283</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Queenfish SSN-651</strong></td>
<td>1967 (1/30 - Feb)</td>
<td>No</td>
<td>none</td>
</tr>
</tbody>
</table>

SubIceEx 2-62; Skate from New London, Seadragon from Pearl Harbor made first submerged rendezvous Jul 31 then surfaced at the Pole. Seadragon visited Ice Island T-3 Jul 24, no cover exchange. After NP visit, both subs made rendezvous w/Burton Island on Aug 7 for torpedo trials. Most Skate polar covers transferred to Seadragon for Adak postmark; covers positively identified by ship with CO, sender corner card or OSC on reverse. Circular RSC rendezvous cachet found in both magenta and black on Skate covers, possibly only in magenta on Seadragon covers. Numerous Skate covers w/RSC rdvu cachet and Fulton dates into September; these are favor covers, not carried.

First SSN 637 class to conduct under ice operations in Baffin Bay/Davis Strait; tested new sonar system.
Whale SSN-638 1969 (3/18 - ?) Yes (4/6) Ty 2(n) 4/6/69 OSC + North Pole/ 6 April 1969
Pargo SSN-650 Skate SSN-578
Ice Island T-3
Whale departed Charleston, SC for ops w/Pargo; surfaced at Ice Island T-3 Apr 3 for sound tests of Ice Island T-3 hydrophones; rendezvous w/Skate Apr 15 for sonar and torpedo exercises. One day PO authorized; approx 1,200 covers serviced on 60th anniversary of NP attainment by polar explorer Robert E. Peary. Cachet design by CO, CDR Wm. W. Wolff, Jr.

Whale SSN-638 Small printed version of stencil
Skate SSN-578
2. Same

Pargo departed New London, CT for ops w/Whale; during operation received authorization to visit NP; prepared mimeo cachet and fabricated type F cancel on board using portions of two OSC rubber stamps. After return sent approx 100+ covers with printed cachet (smaller in size than mimeo cachet) and same type F cancel to list of govt officials provided by Adm. Rickover.

Whale SSN-638 Tenth Anniv/1959-Mar 17-1969
Pargo SSN-650 Sub/Polar bear
Note inserted by Skate PAO in cover #2 indicates covers were carried on voyage, but not posted until some time after return
**Queenfish SSN-651** 1970 (7/6 - Aug) Yes (8/5) 1. Ty F 8/5/70

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<thead>
<tr>
<th>Stencil - Polar Expedition w/three variants</th>
<th>Same</th>
</tr>
</thead>
</table>

Queenfish departed Pearl Harbor, followed track of Nautilus; made 24 surfacings in ice. On Aug 5, surfaced within 500 yards of NP, 12 years to the day after Nautilus made first submarine visit.

Two wood block cancels made on board by seaman Casparzak who also designed commemorative cachet. Both cancels and the three mimeo cachet have identifiable differences; combinations of each cancel and variant cachets exist; an estimated 2,000 covers were processed while surfaced at NP.

**Hammerhead SSN-663**

<table>
<thead>
<tr>
<th>1970 (10/12 - Dec)</th>
<th>Yes (11/20)</th>
<th>Ty 2(n+) 11/20/70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skate SSN-578</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwind WAGB-282</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(1) Globe/ship &amp; RS NP/ Nov 70</th>
<th>(2) Shark in ice, RS NP/ Nov 70</th>
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</thead>
<tbody>
<tr>
<td>Both exist with NP in arc over stamp</td>
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</tbody>
</table>

Hammerhead left Norfolk for SubIcex 2-70 with Skate during which Hammerhead made a record number of surfacings through ice including one at the NP. Northwind's role apparently that of a support ship for the operation. Two different RS cachets were used, both designed by crew member ET2 Searfoss. Ship authorized a 4 bar hand cancel by USPS. Approx 1,200 covers cancelled while surfaced at NP.
**Skate SSN-578** 1970 (Nov-Dec)  
Hammerhead SSN-663  
Northwind WAGB-282  
SubIcem 2-70; war fighting ops in Davis Strait. Neither Northwind or Skate issued commemorative covers.

**Trepan SSN-674** 1971 (2/16 - 3.27)  
Skate SSN-578  
Edisto AGB-2  
Canopus Ty 7 3/27/71 OSC

**Skate SSN-578** 1971 (2/16 - 4/6)  
Trepan SSN-674  
Edisto AGB-2  
Groton mc 4/6/71 OSC

Trepan and Skate departed New London for SubIcem 1-71 for a polar operation off Iceland in the Denmark Strait and Greenland Sea supported by CGC Edisto. Both submarines visited Holy Loch, Scotland before returning to New London.

**Hawkbill SSN-666** 1973 (Mar - Apr)  
Seadragon SSN-584  
Staten Island AGB-5  
RSC Hawkbill under Ice 1973

1. Dixon Ty 2n+ 4/16/73  
2. USPS CA 920 mc 4/18/73  
Same

Hawkbill departed San Diego to conduct joint torpedo operations with Seadragon under the Bering Sea ice pack for SubIcem 1-73 with support by CGC Staten Island. A RS cachet designed by one of Hawkbill’s officers and made in San Diego before departure was applied to covers during the operation and cancelled on return.

**Seadragon SSN-584** 1973 (Mar - Apr)  
Hawkbill SSN-666  
Staten Island AGB-5  
RSC Seadragon 1973/ Under Ice Operations

USPS 945 mc 4/9/73 (San Fran)  
USPS 967 mc 4/16/73 (PHTH)

For SubIcem 1-73 Seadragon prepared a special RS cachet; posted covers in San Francisco during a port visit and in Pearl Harbor on return.

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**Hawkbill Under Ice 1973**

**Seadragon 1973**

**Under Ice Operations**

Bluefish departed Norfolk for Sublceo 1-75 in Greenland and Barents Seas to evaluate equipment, collect bathymetric data and maintain submarine expertise in Arctic operations. Ship visited NP where held ceremony to scattered ashes of Lady Suzanne Wilkins, widow of Arctic explorer Sir Hubert Wilkins. Awarded a Navy Unit Commendation. Authorized a one day post office by USPS, last submarine so authorized. Approx 2,500 covers w/ #1 cachet serviced, 208 covers w/ #2 cachet and approx 100 w/ #3 cachet. Cachet #2 designed by USCS member Paul White with service arranged by USCS member Capt R.D. Rawlins USN.


2. Same but 5/12 or 13/76

Gurnard departed from San Diego March 8 for Sublceo 1-76, a two month scientific voyage in the Arctic. A cachet for the trip was printed in advance on #10 envelopes and a two line RS added with the date of surfacing at the NP. Approx 500 official covers were serviced for this op. Gurnard returned May 8 but the covers were not posted on board Dixon until the following week over a three day period.
Flying Fish SSN-673 1977 (3/26 - 6/6) Fletcher’s Ice Island

1. Halifax, Canada mute
2. Halifax, Canada mute
3. Norfolk, VA mc 6/14/77
4. Barrow, AK 6/7/77
5. USS Dupont Ty 2(n+) 6/6/77

Yes (4/30)

RS, Top of the Force/Top of the World
pr, Top of World/Polar Ops
Official w/ smaller printed cachet
RS as in #1
Welcome Home + RS as in #1

Underway from Norfolk, VA for Sublcez 1-77, Flying Fish surfaced for 12 hours at NP for ceremonies and gathering scientific data, 10th sub to surface at NP. Ship visited Halifax, Nova Scotia, on return where mail was sent ashore. However, mail carried U.S. franking, so could not be legally postmarked. Some of this mail did not reach its destination. Flying Fish returned to Norfolk, June 6. #4 is ship mail left at Fletcher’s Ice Island for return to States.

Pintado SSN-672 1978 (9/12 - 11/16) Northwind WAGB-282

1. San Diego CA mc 11/16/78
2. Same
3. Same
4. Northwind Ty 2 (n+) 10/22/78
5. Same

Yes (10/10)

#10, pr 2 line & RS Pintado at the Pole + North Pole 10 Oct 1978
RS Pintado at the Pole + NP RS Pr Top of the World + as #2
Arctic West Summer w/notes on reverse (6 covers)
RS data log w/notations (4 covers)

For Sublcez 1-78, Pintado surveyed McClintock channel and operated with CGC Northwind, transferring personnel by helo between the two ships. #1 approx 1,500 covers. Various Northwind covers exist w/different dates for other of her operations
Archerfish SSN 678 1979 (3/14-6/6) Yes (4/21) 1. APO 09510 (London) mc 5/14/79 Rectangular RSC w/ USS
HMS Sovereign
Archerfish (SSN 678)/ April 1979
2. Plymouth, Eng none or 5/17/79 mc Same Monarch official
3. Plymouth, Eng 5/11/79 mc (depart) Same
4. Groton Subase hc 6/5/79 (return) Same

Archerfish departed New London March 14 for Sublceex 1-79; conducted a series of torpedo test firings east of Greenland with support of Canadian helos; cruised under ice 41 days conducting an extensive scientific survey package, surfaced once at NP, then classified operations with HMS Sovereign in the Arctic. Upon completion Archerfish visited Plymouth, England May 11-19, then Zeebrugge, Belgium May 22 - 25 before returning to New London June 4. Cachet designed by ship’s officer Lt(jg) K.W. Comer and RS prepared in Groton before departing. Approx 600 official monarch envelopes mailed at Plymouth (#3) but most not postmarked due to official US franking. An estimated 200-300 covers (#1 or #3) were serviced. Ship received a Navy Unit Commendation for the voyage.
HMS Valient 2. Holland Ty 2(n) 11/27/81
3. None
square RS NP, On Top of it All
Icex-81
Same
Same, Official monarch, 11 Oct 81
Silversides sailed from Norfolk to participate in a combined US-UK operation also involving CGC Northwind, then continued under the ice cap for SubIcex 1-81 for a total of 54 days during which she surfaced at the NP. Following the operation, she visited Haakonsvern, Norway Nov 19-23 then Holy Loch, Scotland Nov 27th before returning to Norfolk. The ship attempted to mail her monarch covers in Haakonsvern but Norwegian postal officials demurred; approx 400 official envelopes processed by USS Holland at Holy Loch. Since these had a penalty indicia, they received no postmark. However, an unknown quantity of crew and collector mail did receive a postmark.

Spadefish SSN-668 1982 (Mar - July) Yes none none
Unspecified Arctic operations, probably classified; awarded Navy Unit Commendation

Monarch official, pr & hand color
Tautog SSN-639 1982 (10/14 - 12/15) Yes (11/20) 1. Same
Same
Aspro and Tautog sailed from Pearl Harbor to conduct PacSubIcex 1-82, spending 40 days north of Arctic circle under ice. The ships made the first winter rendezvoused at the NP and surfaced Nov 20. Commemorative envelopes are unique, designed by QMC (SS) Russell B. Starr, they were color washed by Starr and ET1 Randy Reynolds, both of Aspro after the ships returned to port. Approx 2500 covers with enclose letter of greetings were cancelled at Honolulu Dec 20 after background color applied.
<table>
<thead>
<tr>
<th><strong>Whale SSN-638</strong></th>
<th>1982 (Fall)</th>
<th>?</th>
<th>T-2z FPO 09510 (London) 11/12/82</th>
<th>OSC (4 covers known)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unspecified classified Arctic operations; no information whether surfaced at the NP. Visited a port in England after the op.</td>
</tr>
<tr>
<td><strong>L. Mendel Rivers SSN-686</strong></td>
<td>1983 (Aug - Sep)</td>
<td>No</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unspecified classified Arctic operations.</td>
</tr>
<tr>
<td><strong>Tautog SSN-639</strong></td>
<td>1983 (Jul - Aug)</td>
<td>Yes (8/5)</td>
<td>1. Honolulu mc 10/21/83</td>
<td>pr monarch (sub &amp; icebergs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Honolulu mc 10/22,23, 24/83</td>
<td>OSC</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Tautog returned to the Arctic for PacSublceex 1-83; surfaced at NP 25 years to day of first visit by USS NAUTILUS. Third sub to surface twice at NP. Ship printed all over cacheted cover (#1) enclosed a letter of greeting dated Aug 5, mailed on return to Pearl Harbor, quantity unknown.</td>
</tr>
<tr>
<td><strong>Sunfish SSN-649</strong></td>
<td>1984 (Feb - Apr)</td>
<td>--</td>
<td>none</td>
<td>none</td>
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<tr>
<td></td>
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<td></td>
<td>Unspecified classified Arctic operations.</td>
</tr>
<tr>
<td><strong>Spadefish SSN-668</strong></td>
<td>1984 (Aug - Oct)</td>
<td>--</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unspecified Arctic operations, probably classified.</td>
</tr>
</tbody>
</table>
Gurnard SSN-662  1984 (9/17 - 11/30)  Yes (11/12)  1. Ty F 96666-2342
Pintado SSN-672  Polar Sea WAGB-11

Pr monarch, Gurnard - Pintado
Rendezvous @ NP hand tinted
OSC

Pintado SSN-672  1984 (9/18 - 11/30)  Yes (11/12)  1. Ty F 96678-2352
Gurnard SSN-662  2. San Diego CA mc 12/11/84
Polar Sea WAGB-11

As Gurnard #1
OSC

Both submarines departed San Diego for PacSubIcem 1-84, made rendezvous in the Beaufort Sea with CGC Polar Sea and an Ice Camp. After about five weeks of operations, the two subs proceeded to the NP where they surfaced approximately 500 yards apart, the second time at the NP for each submarine. Gurnard remained surfaced for 36 hours, Pintado for 72 hours. In all, the two subs operated together for 75 days, 45 days under ice. A joint cacheted monarch sized cover was produced for the operation. An earlier design was misplaced in the print shop of USS McKee and the design used in 1982 by Aspro/Tautog was slightly modified and covers printed. Approximately 900 covers were postmarked, 300 to each crew and 150 official mailings from each ship. The rubber stamp pictorial postmarks were manufactured on board McKee, identifiable to each ship by the zip code. The date was applied by a separate dater rubber stamp. Some #10 size voyage covers are known from Gurnard with OSC.

Ty 2-1(n) 7/23/85
Sub at NP, Arctic winds blowing
Same

Trepan departed New London to conduct unspecified Arctic operations for Icem 1-85. Trepan visited ice camp Opal April 15 where Adm Watkins, CNO, and others embarked for eight hours of under ice ops; ship returned to New London June 28. Cachet was designed by crew member STS2(SS) Phil Grant, the fancy postmark by Lt Somnitz, PAO. Date applied by rubber stamp dater. Approximately 2,100 covers sent to navy and government officials and other dignitaries. The type 2-1 cancel was apparently obtained from USPS and is much scarcer than the fancy cancel.
Sea Devil SSN-664  1985 (May - Aug)  Yes (6/6)  Frank Cable Ty 2(n) 8/15/85  OSC + hand ICEX '85
Sea Devil departed Charleston, SC in May 1985 to conduct unspecified Arctic operations probably of a classified nature. She reportedly surfaced at the NP then visited Kiel, Germany about July 15 and possibly Zeebrugge, Belgium before returning to Charleston. Six covers reportedly were serviced.

Aspro SSN-648  1985 (Jul - Sep)  Yes (8/20)  1. Honolulu mc 12/2/85
                   Queenfish SSN-651

Queenshine SSN-651  1985 (Jul - Sep)  Yes (8/20)  2. San Diego mc 2/13/86
                   Aspro SSN-648

Aspro departed San Diego and Quenfish left Pearl Harbor for PacSubIceX 2-85, both surfacing at the NP August 20, the fourth dual submarine surfacing at NP. A joint printed monarch envelope was prepared with a letter enclosed signed by both COs. The covers were hand tinted after Quenfish returned to Pearl Harbor and mailed at the Submarine Base December 2. Collector mail is known from both ships serviced with OSC; however, the Quenfish covers did not receive a postmark. The Aspro covers were mailed several months after return.

Ray SSN-653  1986 (Mar - 6/14)  Yes (5/6)  1. None
                   Hawkbill SSN-666
                   Archerfish SSN-678
                   Ice Station

Hawkbill SSN-666  1986 (Mar - May)  Yes (5/6)  2. Ty F 5/6/85
                   Ray SSN-653
                   Archerfish SSN-678
                   Ice Station

                   Ray SSN-653
                   Archerfish SSN-678
                   Ice Station

Ray SSN-653  1986 (Mar - 6/14)  Yes (5/6)  1. None
                   Hawkbill SSN-666
                   Archerfish SSN-678
                   Ice Station

Pr monarch subs@ NP; IceX 1-86
RS blue IceX 1-86/USS Ray
Same but black w/ NP notation

Pr monarch subs@ NP; IceX 1-86
OSC w/notatio

Pr monarch subs@ NP; IceX 1-86
RS blue IceX 1-86/USS Ray
Same but black w/ NP notation

Pr monarch subs@ NP; IceX 1-86
OSC w/notatio
Ray, Archerfish and Hawkbill sailed independently from Charleston, SC, New London, CT and Pearl Harbor respectively for Icex 1-86. Ray and Hawkbill rendezvoused at ice station 100 miles north of Pt. Barrow for torpedo firing trials. All three submarines surfaced at the NP May 6, the first three ship surfacing at the NP. Following the operation, Ray visited Holy Loch for repairs and Portsmouth, England before returning to Charleston SC.

A monarch cover was prepared for the operation with enclosed letter signed by all three COs with an estimated 2,500 monarch covers mailed. Hawkbill covers were postmarked in Honolulu June 25. Since the covers had a penalty indicia, many were not postmarked so a cover cannot be ascribed to either Ray or Hawkbill without a signed corner card. Ray produced a rubber stamp cachet and fancy cancel for the operation (both in blue) with a black cachet used on covers mailed in San Diego on return. Archerfish produced a rubber stamp cachet and fancy cancel for the operation with NP date added with a RS dater. Hawkbill mailed collector covers with OSC on return to port.
<table>
<thead>
<tr>
<th>Submarine</th>
<th>Year</th>
<th>Rendezvous</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seahorse SSN 669</td>
<td>1986</td>
<td>Yes (8/9)</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>Finback SSN 670</td>
<td>1986</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>Billfish SSN-676</td>
<td>1987 (Apr - Jun)</td>
<td>Yes (5/18)</td>
<td>1. ?</td>
</tr>
<tr>
<td>Sea Devil SSN-664</td>
<td></td>
<td></td>
<td>2. San Diego CA mc 7/1/87</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3. Fulton Ty 2t(n) (return)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>#10 pr North Pole Rendezvous ship seal imprint w/notation pr Ch #4 in blue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>as 1 above</td>
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<tr>
<td></td>
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<td>ship seal imprint w/notation</td>
</tr>
<tr>
<td>Sea Devil SSN-664</td>
<td>1987 (Apr - Jun)</td>
<td>Yes (5/18)</td>
<td>1. As 1 above</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2. Simon Lake Ty 2-1(n+) 7/4/87</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>as 1 above</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ship seal imprint w/notation</td>
</tr>
</tbody>
</table>

Billfish departed New London for Icecap 1-87 to operate under ice cap for a record of 67 days. Sea Devil departed Charleston, SC, made a rendezvous with Sea Devil and Superb at NP where all three surfaced, the third triple surfacing at the NP, and first involving a British submarine. Sea Devil visited Holy Loch, Scotland following the operation. Billfish prepared a printed cover for the operation.

**Pintado SSN-672** 1987 (Late Spring) Yes (6/16) 1. Small T-F North Pole (96675-2352) a. pr monarch Icecap '87 & 4 line “Mailed Aboard etc” b. RSC w/2 mini RSC c. RSC (sub) & mini OSC d. 4 diff env by Bruce Speed as above 2. As above w/ no dater 3. Large Ty F North Pole/96675-2352 RSC w/2 mini OSC
Pintado departed San Diego in April 1987 for her third trip under ice, steaming over 18,000 miles in 48 days under the ice cap. A printed cachet was prepared on a monarch cover, with letter enclosed, with a fancy rubber stamp cancel and a four line date. A second North Pole fancy cancel was used on some covers. A variety of cacheted covers with one of the fancy cancels are known.

L. Mendel Rivers 1987 (Fall) Yes (9/13) None None
SSN 686
Unspecified Arctic operations.

Lapon SSN 661 1988 (?) No None None
Unspecified Arctic operations

HMS Superb Ty F undated Wentworth
HMS Turbulent

Archerfish departed New London for LantSubIceX 2-88 to test communications capabilities in Arctic waters. She surfaced at the NP for four hours. She modified her 1986 IceX cachet for use with the same fancy postmark. Reports that she surfaced with HMS Superb and Turbulent have not been definitely confirmed.
**Queenfish SSN-651** 1988 Yes (7/20 - Aug) Yes (8/20) NonE None
Departed Pearl Harbor following route taken by Nautilus SSN-571 surfaced at NP Aug 3 celebrating the 30th anniversary of Nautilus polar visit. After spending nine days under ice, she departed for a port visit to Holy Loch, Scotland, for four days, then returned via Arctic to Pearl Harbor. No covers reported.

**Sturgeon SSN-637** 1989 (Spring) No Frank Cable Ty 2-1(n+) 6/13/89 RSC Icex 1-89 + circular Aboard
Arctic Ice Camp Sturgeon + label
Sturgeon departed Charleston, SC in March to collect data in the Arctic environment. She visited an ice camp to embark a Congressional delegation escorted by Adm Bruce Demars who headed the Navy nuclear power branch. Cachet designed by LCDR Henry Gonzales, ship Weapons Officer; labels were designed by his father, Henry Gonzales, Sr. Of El Paso, TX. 292 covers were produced.

**Silversides SSN-679** 1989 (8/25 - Nov) Yes -- --
Departed Norfolk for Arctic ops, surfaced at the NP, continued to Hawaii and returned to Norfolk via Panama Canal, a 20,500 mile circumnavigation of North America, a submarine first.

**Augusta SSN 710** 1989 No None None
Unspecified Arctic operations

**Seahorse SSN-669** 1990 (2/21 - Jun) Yes (4/18) 1. Frank Cable Ty 2-1(n+) 10/5/90 monarch pr "East meets West Spring 1990"
Gurnard SSN-662 Ice camp APLIS 2. Santa Ana mc 7/7/90 OSC
Ice camp APLIS 3. Frank Cable Ty 2-1 9/18/90 RS Seahorse Arriving Icex 1-90
Seahorse departed Charleston, SC for Icex 1-90 in the Arctic and joints ops with Gurnard. Surfaced at NP. Visited ice camp APLIS where embarked Representative Robert Dorman and Senator Albert Gore for 24 hours under ice. Apparently returned to Charleston via Panama
Canal. Prepared monarch RS cachet for joint ops. Later dates exist of cover #1. Santa Ana cancel from Arctic Sub Lab tech rep. #3 cover exists with many Oct & Nov dates probably favor cancels.

Seahorse SSN 669 Ice Camp APLIS

Gurnard deployed from San Diego, CA on Icex 1-90; visited Ice Camp APLIS, 120 miles north of Prudhoe Bay, AK where Secretary of the Navy embarked. Made rendezvous with Seahorse, surfaced at NP, returned to San Diego via Panama Canal, 3rd sub to circumnavigate North America.

**Puffer SSN 652** 1990 (Fall) Yes (9/17) None None
Unspecified Arctic operations

HMS Tireless Pargo & Tireless
Ice Station
2. San Diego mc 6/27/91OSC & snowman

Pargo departed New London on Icex 91 for the Arctic, surfaced at Arctic Research camp to host a group w/ Adm DeMars, CSL for a cruise; made rendezvous w/Tireless, surfaced at NP; visited Adak, AK and Pearl Harbor before returning to New London via Panama Canal, 4th SSN to circumnavigate North America. Pargo prepared a printed cachet for joint NP rendezvous, no estimate of quantity.
Aspro SSN 648  1991  No  None  None
Tautog SSN 639

Submarines conducted unspecified Arctic Operations

Sea Horse SSN-669  1991 (spring)  ?  1. Charleston hc 7/12/91  Carried aboard Seahorse
                          2. Frank Cable official 12/5/91  RS Icex 1-90 “Seahorse
                          Arriving” w/Ice Pilot note

Seahorse returned to the Arctic for unspecified operations above the Arctic circle Note by ship’s Navigator on reverse of #1 cover says “carried above the Arctic circle aboard USS Seahorse, Spring 1991.” Ship reused the 1990 RS cachet without modification. Seahorse’s use of the 1990 Arctic cachet for the 1991 operation present a confusing picture which is clarified by postmark date.

With late 1991 dates
Grayling SSN-646  1992 Mar - May       Yes (4/16)       Grayling Ty F 4/16/92       RS North Pole Station + OSC
Grayling departed San Diego for unspecified Arctic operations, surfacing at the NP. Carried covers had a “North Pole Station” RS applied.

Spadefish SSN-668  1992 (Mar - Jun)   Yes (5/7)       San Diego mc 6/29/92       OSC w/NP notation
HMS Trenchant
Spade fish departed San Diego for unspecified Arctic operations with HMS Trenchant, both surfacing at the NP.

Pintado SSN-672   1992 (Fall)         Yes (9/3)       Ty F 9/3/92 &
                  San Diego Jan 13, 1993       RS Pintado Icex Sept 92
Pintado departed San Diego for her 4th Arctic cruise, completed her 1,000 th dive and surfaced at NP. A cachet and fancy postmark were prepared using a dot matrix printer. The cachet was used for at least six months in different colors but without the fancy cancel.
<table>
<thead>
<tr>
<th>Name</th>
<th>Year (Period)</th>
<th>Activity</th>
<th>Deployment Details</th>
</tr>
</thead>
</table>
| Albany SSN-753  | 1992 (fall)  | No       | Hampton Rds mc 10/13/93 OSC w/NP under ice note
|                 |              |          | Albany conducted the first under-ice operation by a SSN 688I (improved) class submarine, probably a classified operation. |
| San Juan SSN-751| 1993 (Mar - May) | No       | New Haven mc 6/29/93 OSC w/crew notation
|                 |              |          | San Juan made an Arctic deployment until May 1993, the first improved 688 class to surface through the ice. |
| San Juan SSN-751|              |          | Puffer departed San Diego for Arctic, operated with San Juan, visited Faslane, Scotland, returned to San Diego via Panama Canal circumnavigating North America. Puffer prepared a fancy rubber stamp postmark and a two line RS noting NP surfacing. |

**NORTH POLE SURFACING**

**27 April 1993**

<table>
<thead>
<tr>
<th>Name</th>
<th>Year (Period)</th>
<th>Activity</th>
<th>Deployment Details</th>
</tr>
</thead>
</table>
| Pargo SSN-650   | 1993 (8/11 - 11/19) | Yes (9/12) | San Diego mc 11/5/93 Groton Subase 11/19/93 (return) pr USCS Ch #4 cachet
|                 |              |          | Pargo deployed from San Diego to test the concept of conducting a scientific deployment with civilian scientists aboard; she spent 19 days in Arctic basin, surfaced 21 times through ice, visited Norway before returning to New London; cruise proved the concept of submarine voyage as Arctic research platform. |
| Spadefish SSN 688| 1993         | No       | None              |
|                 |              |          | Unspecified Arctic operations. |
|                 |              |          | UK submarine Ice Camp Crystal
|                 |              |          | Whale departed New London for a multi-purpose operation involving a UK submarine and ice camp Crystal, north of Greenland. Whale surfaced at the NP April 16 for 18 hours. She visited Haakonsvern, Norway after cruise before returning to Subase, Groton. |
| Pargo SSN 650   | 1994         | No       | None              |
|                 |              |          | Unspecified Arctic operations. |
2. San Diego 6/5/95
3. Honolulu mc 6/13/95 pr SubIcex - 95 overall cachet
OSC w/3 line Scicex-95
OSC + ship & 4 line legend
Cavalla sailed from Pearl Harbor on the first of five annual Arctic cruise with civilian scientists on board; surfaced ten times during science cruise including at NP. Set an endurance record of 63 days under the ice pack. Visited Esquimalt, Canada on return. Awarded NUC for cruise. Cavalla prepared a RS cachet (#2) and a fancy postmark and also used ship OSC plus a four line RS on some covers. USCS member John Milewski donated covers with a printed cachet (#1).

Sand Lance SSN-660 1996 (Jun - 8/19) Yes (7/12) 1. Ty F 6/12/95
2. San Diego mc 11/19/95 a. Pr First North Pole Trip
b. Same + ASL logo
c. Pr USCS Chapter #4
d. Pr USCS Ch #27
OSC w/NP notation
Sand Lance departed New London for Icex 1996. She recorded 38 surfacings through ice with one at the NP on July 12. She used a fancy postmark with a RS dater to record the NP surfacing.
Pogy SSN-647 1996 (8/27 - Oct) Yes (9/19) 1. Ty F 9/19/96 (2) a. OSC
b. same w/NP notation
c. pr Scicex-96 w/NP notation
d. pr Bear riding sub
e. USCS Ch #4 pr
f. Same + 2 RS

2. Peleliu 8/27/96 (depart) USCS Ch #4 pr cachet
3. John Paul Jones 11/26/96 (return) USCS Ch #4 pr cachet

Pogy departed San Diego for the second scientific Arctic cruise of 70 days, reaching the NP Sept 19 but not surfacing there. She surfaced Sep 20 110 nm from NP. She used a donated fancy cancel similar to that of Sand Lance and an additional fancy cancel prepared by the ship.

Springfield SSN 761 1996 No None
None
Unspecified Arctic operations.

NR-1 1997 No Southern CT mc 9/29/97 (return) Arctic Circle Crossing
Conducted a classified operation noted in cachet. ASR Sunbird provided support.

Arctic Circle Crossing
Date: CLASSIFIED
Longitude: CLASSIFIED
Mission: CLASSIFIED
<table>
<thead>
<tr>
<th>Ship</th>
<th>Year</th>
<th>Operation</th>
<th>Stamps/Markings</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Juan SSN 751</td>
<td>1997</td>
<td>No</td>
<td>None</td>
</tr>
<tr>
<td>unspecified Arctic operations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philadelphia SSN 690</td>
<td>1997</td>
<td>No</td>
<td>None</td>
</tr>
</tbody>
</table>
| Archerfish SSN 678 | 1997 (8/21 - 10/15) | Yes            | 1. Ty F 9/5/97  
|                  |               |                 | a. OSC  
|                  |               |                 | b. OSC w/NP notation  
|                  |               |                 | c. Tom Armstrong cptr cachet  
|                  |               |                 | d. Chapter #4 pr cachet  
|                  |               |                 | e. DRW pr #264  
|                  |               |                 | f. DRW RS (18 made)  
|                  |               |                 | g. Hobby Link  
|                  |               |                 | h. Navy seal cachet  
|                  |               |                 | i. DRW #266 card (50 made)  
|                  |               |                 | j. Chapter #4 cachet  
|                  |               |                 | k. Chapter #4 pr cachet  
|                  |               |                 | l. Same + ASL logo  
|                  |               |                 | 2. Groton Subase 8/21/97 (depart)  
|                  |               |                 | 3. Bremerton WA 10/20/97 (arrival)  |

Archerfish departed New London for the third Arctic scientific cruise of 56 days reached but did not surface at NP. She traveled 15,000 miles ending at Bangor, WA where she was scheduled to be decommissioned. The ship used a donated fancy postmark and separate RS dater to record the NP surfacing. A host of private sponsors prepared cacheted covers for the voyage.

<table>
<thead>
<tr>
<th>Ship</th>
<th>Year</th>
<th>Operation</th>
<th>Markings</th>
</tr>
</thead>
</table>
| Hawkbill SSN 666 | 1998 (6/1 - 7/16) | Yes            | Honolulu mc 7/16/98  
|                  |               |                 | Circular pr Hawkbill North Pole                                          |

Hawkbill departed Pearl Harbor for fourth Scicex of 42 days with 2 Navy and 5 civilian scientists; surfaced four times, once at the NP, returned to PH July 13th.
Billfish SSN 676 1998 (9/19 - 12/7) ? Ty F 9/17/98
Bremerton 12/7/98
Billfish sailed from Subase Groton to via the Arctic Ocean to Puget Sound Naval Shipyard at Bremerton for decommissioning.

Memphis SSN 691 1999 No None None

Hawkbill SSN 666 1999 (3/18 - 6/19) Yes (5/3) Mira Mesa CA Sta 6/19/99 Foil embossed seal & RS NP w/NP notation
Note: Departed PTH for fifth Scicex and last operation, Dr Margo Edwards of U of HI led science team. On Mar 25, she dove under ice through Bering Strait, surfaced April 3 for first time at APLIS ice station150 miles north of Barrow. Picked up scientist, media and ComSubPac for cruise. Returned April 10 to Ice Camp, dropped off media, picked up Senator Robb, Sec Nav and CNO for overnight cruise. On Apr 16 returned to Ice Camp for more researchers and stores and left for the NP. Surfacing on May 3rd, the ship scattered the ashes of Dr. Waldo Lyon, founder and director of the Arctic Submarine Lab. Following the ceremony, Hawkbill completed the operation then visited Portsmouth, England and for Lauderdale, FL before returning to PTH July 1 via the Panama Canal.

San Francisco 2000 No None None
SSN 711
Unspecified Arctic operations.
SSN 686  unclear 2/27/2001
Bremerton hc 11/29/00 (arrival)  Ship seal imprint w/NP notation
Armstrong cachet

L. Mendel Rivers departed Norfolk, VA to conducted PacSubIceX 3-00, a transit and Arctic operations via the NP enroute to Bremerton WA for decommissioning.

Scranton SSN 756  2001  Yes (6/12)  San Diego hc 8/15/01  OSC
Unspecified Arctic operations. First improved SSN 688 class sub to surface at the NP.

Connecticut SSN 22  2001 (Summer)  Yes (6/19)  Ty F w/hand 6/19/01  OSC
Oklahoma City SSN-723
Scranton SSN-756

LantSubIceX 1-01; first Seawolf class sub to surface at the Pole; visited Faslane, Scotland before returning to New London. The operation tested new ice avoidance sonars, communications and navigation equipment as well as active and passive sonar arrays.

Oklahoma City  2001 (Summer)  No  None  none
SSN 723
Connecticut SSN-22
Scranton SSN-756

Participated in LantSubIceX 1-01; surfaced in the Arctic but not at NP

Scranton SSN 756  2001 (Summer)  Yes (6/5, 6/12)  San Diego 8/15/01  OSC
Connecticut SSN-22
Oklahoma City SSN-723

Participated in LantSubIceX 1-01; first 688I class boat to surface at the NP.
Connecticut SSN 22 2002 (Summer)
Pruadho Bay 4/27/02
APLIS Ice station
Participated in IceX-02 testing all systems in Arctic environment; made first through-ice surfacing by SSN 21 class sub.

Connecticut SSN 22 2003 (Apr - 5/23)
APLIS Ice Station
Departed Groton early April for IceX-03, surfaced at APLIS ice station (U of Wash Applied Physics Lab) off Prudhoe Bay AK; conducted tests of ADCAP Mk 48 torpedo, fired 19 weapons; On April 22, Adm Skip Bowman, Representative Roscoe Barlett, former CNO Adm James Watkins and others rode the boat; on Apr 27 after she surfaced through ice, was investigated by polar bear. She passed under the NP May 7 and circled the globe (at the Pole) but did not surface then sailed for Haakonsvern, Norway for a visit from May 12-16. During the cruise tested new sonar, communication and navigation equipment. Ship reused the 2001 fancy RS pictorial cancel w/o date as cachet in addition to OSC. Covers were mute cancelled so were evidently landed at Haakonsvern; regulations did not permit postmarking US franking.

Honolulu SSN 718 2003 (Sep - Nov)
Taco ma WA mc 1/15/04
Honolulu departed Pearl Harbor for PacSubIceX ‘03, to test a new forward looking sonar system in under ice environment and collect scientific data and water samples for a project of the Arctic Sub Lab and National Science Foundation. She is the first of original 688 class design (w/sail planes) to reach NP. She surfaced through ice four times with longest 25 hours on the surface; while surfaced 280 miles from NP took photo of 3 polar bears investigating sub.

Hampton SSN 767 2004 (Apr - 7)
HMS Tireless
Hampton deployed from Norfolk, VA for a join operation with HMS Tireless on IceX-04. On April 19, Tireless surfaced advised Hampton of an open space nearby and both ships remained surfaced for 16 hours.

Alexandria SSN 757 2004 (June)
none
Alexandria departed Subase New London in June to transit to the Pacific via the North Pole, but did not surface there. She arrived at Yokosuka, Japan in less than a month after departing Groton.

Oklahoma City SSN 723
Unspecified Arctic operations. Reached NP but did not surface.

Memphis SSN 691 2005 (5/3 - 11/4)
Memphis departed Groton for a WestPac deployment traveling to the Pacific and return via the Arctic.
Jimmy Carter 2005 (9/25 - 11/9) Yes Bangor Sta 11/9/06 pr OSC
SSN 23 Tacoma WA mc 11/17/06 OSC
Jimmy Carter departed Groton to transfer to her new home port of Bangor, WA sailing the Arctic route via the North Pole. No information as to whether or not she surfaced at the NP.

Salt Lake City 2005 Yes (11/17) ASL 11/17/05 1 OSC w/ NP notation
SSN 716 Same 2 OSC + small pr OSC + sub
Same w/zazzle stamp 3 OSC
Same + zazzle stamp 4 OSC + small pr OSC
Groton CT 12/8/2005 (arrival) 5 Chapter #4 cachet
Salt Lake City completed an inter-fleet transfer from Pacific to Atlantic via the NP arriving in Portsmouth, NH for decommissioning and scrapping. #2, 3 and 4 cachets were prepared by USCS member Larry La Foe in quantities of 40, 4 and 2 respectively.

The Arctic Sub Lab began using it transit logo as a postmark with Salt Lake City and has used it since with a separate RS dater.

SSN 766 Norfolk VA 4 bar 11/29/05 (arrival) USCS Chapter #4
Charlotte departed Pearl Harbor and arrived in Norfolk, VA Nov 25 following a transit under ice from the Pacific Ocean for a major Depot Modernization Period. Cachet sponsored by USCS member Larry La Foe.
Santa Fe SSN 763  2006 (summer)  Yes (7/16)  ASL 7/16/06
                                              ASL 7/16/06
                                              Ty 2-2 undated
                                              1 OSC w/NP notation
                                              2 OSC + pr OSC & sub
                                              3. Pr OSC + circular OSC

Santa Fe left Pearl Harbor for an inter-fleet transfer via the Arctic Ocean and NP to Atlantic for a maintenance overhaul ans systems upgrade at Portsmouth Naval Shipyard, Kittery, ME. Two covers w/ #2 cachet sponsored by USCS member La Foe.

Seawolf SSN-21  2006  Yes (8/17)  ASL 8/17/06

Seawolf conducted unspecified operations in the Arctic reaching the NP Aug 17.
Boise SSN-764  2006 (10/30 - 5/30/07)  Yes (11/15)  ASL 11/15/06 + Boise seal imprint  1 pr OSC w/NP notation
Boise Seal imprint
2 OSC + pr OSC + sub
Boise departed from Norfolk, VA via the Arctic and NP for a six month's WestPac deployment. However, the ship schedule was extended and she returned to Norfolk via the Suez Canal. Two covers w/ #2 cachet sponsored by USCS member LaFoe.

Alexandria SSN 757  2007 (Mar - Apr)  Yes (4/1)  Ty F Anniv Station 6/29/06  OSC w/NP notation
HMS Tireless  Yes (3/19)  ASL 3/19/07 + San Diego 4/24/07.
APLIS Ice Station  CO RS w/auto
NP Environmental Obs.  pr cachet
Prudhoe Bay 3/31/07  OSC
Thule, Greenland 5/21/07
Alexandria departed Groton to participate in IceX 2007, a joint US-UK operation coordinated by the Applied Physics Laboratory Ice Station built on the Arctic Ocean sea ice north of Deadhorse (Prudhoe Bay) AK. APLIS Ice Camp issued covers w/pr cachet w/postmark Prudhoe Bay 3/31/07. Alexandria polar covers were unaccountably held at the Groton post office and finally processed with a fancy postmark which happened to be on hand.

RSC on reverse
2. Foreign Nuclear Submarine Operations in the Arctic

<table>
<thead>
<tr>
<th>Ship</th>
<th>Dates &amp; Associated units</th>
<th>North Pole</th>
<th>Postmarks</th>
<th>Cachets</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Soviet Union</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leninsky</td>
<td>1962 (June)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Komsomolets</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>A fleet of three Soviet submarines reached the North Pole as reported by the Soviet press and confirmed by the Navigation Officer to the author.</td>
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<td></td>
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<tr>
<td>B. United Kingdom</td>
<td></td>
<td></td>
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<tr>
<td>Dreadnought</td>
<td>1971 (2/20 - Mar)</td>
<td>Yes (3/3)</td>
<td>No</td>
<td>RS circular NP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Helensburg UK 3/17/71 (Return)</td>
</tr>
<tr>
<td></td>
<td>Dreadnought departed Faslane bound for the North Pole during the most severe part of the Arcit winter. She spent a total of seven days beneath the ice surfacing on six occasions including at the NP. She may have conducted operations with USS Trepang and Skate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sovereign</td>
<td>1976 (10/1 - 11/5)</td>
<td>Yes (10/23)</td>
<td>Plymouth mc 11/9/76 (Return)</td>
<td>RS NP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Plymouth mc 11/16/76</td>
<td>HMS SOVEREIGN NP</td>
</tr>
<tr>
<td></td>
<td>Sovereign conducted an extensive study of the Arctic for the Scott Polar Research Institute, surfacing at NP Oct 23 where officers and crew played a game of soccer.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submarine</td>
<td>Year</td>
<td>Note</td>
<td>Details</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td><strong>Sovereign</strong></td>
<td>1979 (Spring)</td>
<td></td>
<td>Conducted operations with USS Archerfish during SubIcex 1-79.</td>
<td></td>
</tr>
<tr>
<td><strong>Valiant</strong></td>
<td>1981</td>
<td></td>
<td>Conducted operations with USS Silversides during SubIcex 1-81</td>
<td></td>
</tr>
<tr>
<td><strong>Superb</strong></td>
<td>1987</td>
<td>Yes (5/18)</td>
<td>Conducted operations with USS Billfish and Archerfish in Icex 1-81; the three submarine made the first multi-national three submarine rendezvous at the NP</td>
<td></td>
</tr>
<tr>
<td><strong>Superb</strong></td>
<td>1988 (Spring)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Turbulent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tireless</strong></td>
<td>1989 (?)</td>
<td></td>
<td>Unspecified Arctic operations.</td>
<td></td>
</tr>
<tr>
<td><strong>Tireless</strong></td>
<td>1991</td>
<td>Yes (5/8)</td>
<td>Conducted joint operations with USS Pargo during Icex 91 surfacing at the NP.</td>
<td></td>
</tr>
</tbody>
</table>

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**North Pole Rendezvous 1991**

![Image of North Pole Rendezvous 1991]
Trenchant       1992       Yes (5/7)       --
Trenchant conducted operations with USS Spadefish both surfacing at NP.

Tireless       2004       Yes (4/19)       --
Tireless conducted operations with USS Hampton both surfacing at NP

Tireless       2007       ?
Tireless conducted operations with USS Alexandria and possibly Ice Station APLIS.
### 3. Diesel Submarine Operations Polar Operations

<table>
<thead>
<tr>
<th>Date</th>
<th>Units</th>
<th>Remarks</th>
<th>Covers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-Sep 1946</td>
<td>Atule SS 403, Northwind WAGB 282</td>
<td>Nanook 46, first under pack ice in Kane Basin</td>
<td></td>
</tr>
<tr>
<td>Sept 1946</td>
<td>Blower SS 325</td>
<td>Marginal ice zone ops</td>
<td></td>
</tr>
<tr>
<td>1946-47</td>
<td>Sennet SS 408</td>
<td>Operation Hi Jump (Antarctic)</td>
<td>Op Highjump cach. Ty 2z 4/22/47 Straight line pm no date Op HJ cachet w/ SL SENNETT (bogus, name added &amp; misspelled on Mt Olympus T-9 1/10/47 cvr</td>
</tr>
<tr>
<td>Aug 1947</td>
<td>Boarfish SS 327, Caiman SS 323 Cabezon SS 334, Chubb SS 329 Nereus AS 11</td>
<td>Chukchi Sea, Boarfish under ice</td>
<td></td>
</tr>
<tr>
<td>Sep 1948</td>
<td>Blower SS 325, Carp SS 338</td>
<td>Chukchi sea, Carp under ice</td>
<td></td>
</tr>
<tr>
<td>Aug 1949</td>
<td>Cochino SS 345, Tusk SS 426</td>
<td>Cochino lost enroute to area north of Norway</td>
<td></td>
</tr>
<tr>
<td>Aug-Sep 1949</td>
<td>Baya SS 318, EPC(R) 857, HMCS Cedarwood</td>
<td>Bering/Chukchi Seas</td>
<td></td>
</tr>
<tr>
<td>Aug 1949</td>
<td>Toro SS 422</td>
<td>Norwegian Sea (reached 80°N on simulated war patrol</td>
<td>Not cancelled</td>
</tr>
<tr>
<td>Date</td>
<td>Vessels</td>
<td>Location</td>
<td></td>
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<tr>
<td>--------------</td>
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<td>-------------------------------</td>
<td></td>
</tr>
<tr>
<td>Feb 1950</td>
<td>Perch SS 313, Barbero SS 317</td>
<td>Bering Sea</td>
<td></td>
</tr>
<tr>
<td>Aug-Sep 1952</td>
<td>Redfish SS 395, Burton Island</td>
<td>Beaufort Sea</td>
<td></td>
</tr>
<tr>
<td>Aug-Sep 1953</td>
<td>Redfish SS 395, Burton Island</td>
<td>Beaufort Sea</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Northwind</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug-Sep 1957</td>
<td>Trigger SS 564</td>
<td>Escort for Nautilus</td>
<td></td>
</tr>
<tr>
<td>Summer 1958</td>
<td>Halfbeak SS 352</td>
<td>Escort for Skate</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NY 8/25/58</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>New London 9/22/58 (return)</td>
<td></td>
</tr>
<tr>
<td>Mar 1959</td>
<td>Harder SS 568, Trout SS 566</td>
<td>Newfoundland; furthest diesel under ice - 280 miles</td>
<td></td>
</tr>
<tr>
<td>Mar 1960</td>
<td>Bang SS 385, Tench SS 417, Tusk SS 426</td>
<td>Cabot Strait</td>
<td></td>
</tr>
<tr>
<td>Mar 1961</td>
<td>Becuna SS 319, Dogfish SS 350, Halfbeak SS 352</td>
<td>Cabot Strait</td>
<td></td>
</tr>
<tr>
<td>Mar 1962</td>
<td>Endemedor SS 340, Tusk SS 426</td>
<td>Ops w/Skate, HMS Alderney, HMS Astute</td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td>Becuna SS 319, Tench SS 417, Skate SSN 578</td>
<td>Ops in Cabot Strait</td>
<td></td>
</tr>
</tbody>
</table>